

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A hybrid electric vehicle comprising:

~~a vehicle frame;~~

~~a plurality of drive wheels connected to the frame;~~

an internal combustion engine ~~connected to the frame that rotates~~ configured to rotate in a single direction ~~and~~ to selectively drive ~~drives the a drive wheel~~ wheels and ~~provides~~ provide engine compression braking torque to the ~~at each~~ drive wheel;

an integrated starter generator motor connected to the internal combustion engine that rotates in a same direction as the internal combustion engine, the integrated starter generator motor adapted to selectively starting start the internal combustion engine ~~for driving the wheels and providing braking torque at each drive wheel;~~

a powertrain control module that controls the operating parameters of the internal combustion engine and the integrated starter generator motor, the powertrain control module being selectively actuated by a vehicle operator by actuating an accelerator pedal ~~for~~ to request an accelerator torque ~~request;~~

an electro-hydraulic brake system for vehicle braking, the electro-hydraulic brake system being selectively actuated by the vehicle operator by actuating a vehicle brake pedal to request ~~for a vehicle~~ brake torque ~~request;~~

an electronic brake controller for controlling the ~~electro-hydraulic~~ brake torque applied to the drive wheel ~~wheels~~ by the electro-hydraulic brake system; and

a vehicle rollback sensor for determining a vehicle rollback state; ~~and;~~

wherein the electronic brake controller actuates the electro-hydraulic ~~brakes,~~ brake system ~~instead of applying an engine compression braking torque and an integrated starter generator motor braking torque in a predetermined hill holding condition, where when the vehicle rollback is detected state exists, the vehicle requested brake torque is less than request exists below a first predetermined vehicle brake torque request level, the requested accelerator torque request exists below~~ is less than a second predetermined ~~accelerator torque~~

request level, and the internal combustion engine is running.

2. (currently amended) The hybrid electric vehicle ~~of as set forth in~~ of claim 1 wherein the powertrain control module turns off the internal combustion engine in the ~~predetermined~~ hill holding condition.

3. (currently amended) The hybrid electric vehicle ~~as set forth in~~ of claim 1 ~~wherein, when a vehicle operator actuates the accelerator pedal for the accelerator torque request in the predetermined hill hold condition, where the powertrain control module turns on the internal combustion engine is started to provide torque to the drive wheel and an adaptive filter is applied to decrease the brake torque exerted by the electro-hydraulic braking system when the accelerator pedal is actuated and the hybrid electric vehicle is in a hill holding condition in which the hybrid electric vehicle is stationary on an inclined surface, engages a vehicle transmission, provides adaptive filtering during a clutch engagement, the electronic brake controller de-actuates the electro-hydraulic brakes, and the internal combustion engine provides the acceleration request.~~

4. (currently amended) The hybrid electric vehicle ~~as set forth in~~ of claim 1 ~~further comprising a transmission having a plurality of gear ratios and [[,]] wherein the electronic brake controller does not actuate the electro-hydraulic brake system during a vehicle creep condition; where in which the operator is not actuating the accelerator and brake pedals are not actuated, pedal and not actuating the vehicle brake pedal; the vehicle a gear ratio of the transmission is engaged in a gear, and [[;]] the powertrain control module determines whether vehicle creep will be powered by the internal combustion engine, the integrated starter generator motor or both; and wherein the electronic brake controller will not actuate the electro-hydraulic brakes.~~

5. (currently amended) The hybrid electric vehicle as set forth in claim 1 further comprising a transmission having a plurality of gear ratios and wherein the electronic

brake controller actuates the electro-hydraulic brake system during a predetermined two footer condition in which, where the hybrid electric vehicle is on a grade, and the transmission is in a gear, the vehicle operator actuates the accelerator pedal for an accelerator torque request, the vehicle operator actuates and the brake pedal are actuated, for a brake torque request, and wherein the magnitude of the brake torque request requested is greater than the accelerator torque requested. request; and the electronic brake control system actuates the electro-hydraulic brakes.

6. (original) The hybrid electric vehicle as set forth in claim 5, wherein the powertrain control module turns off the internal combustion engine in the predetermined two footer condition.

7. (currently amended) A method of hill holding a hybrid electric vehicle comprising:

measuring a vehicle rollback state based on a first signal from ~~using~~ a vehicle rollback sensor ~~and sending a vehicle rollback state output to a powertrain control module;~~

measuring a brake torque request ~~with an electronic brake controller using~~ based on a second signal from a brake pedal sensor and sending a vehicle brake torque request output to the powertrain control module;

measuring an accelerator torque request ~~using~~ based on a third signal from an accelerator pedal sensor ~~and sending an accelerator torque request output to the powertrain control module;~~

determining ~~an internal combustion engine a~~ a running state of an internal combustion engine based on a fourth signal from ~~using~~ an engine sensor ~~and sending an internal combustion engine running state output to the powertrain control module;~~

determining a vehicle creep output by comparing a fifth signal from a vehicle speed sensor to a predetermined vehicle creep speed;

~~calculating the presence of~~ determining whether a predetermined hill holding condition using exists based on the first, second, third, and fourth signals and the vehicle creep output; ~~vehicle rollback state output, the vehicle brake torque request output, the accelerator~~

~~torque request output, and the internal combustion engine running state output, and[[;]]~~
actuating ~~the transition of~~ a set of electro-hydraulic brakes ~~using the electronic~~
~~brake controller~~ in the ~~predetermined~~ hill holding condition.

8. (currently amended) The method as set forth in claim 7 further comprising turning off the internal combustion engine ~~using the powertrain control module~~ while in the ~~predetermined vehicle~~ hill holding condition.

9. (currently amended) The method as set forth in claim 8 further comprising, ~~when a vehicle operator actuates the accelerator pedal requesting vehicle acceleration;~~ de-actuating the ~~transition of the~~ electro-hydraulic brakes ~~using the electronic~~ ~~brake controller,[[;]]~~ turning on the internal combustion engine ~~using the powertrain control module,[[;]]~~ and accelerating the hybrid electric vehicle using the internal combustion engine ~~providing when~~ the vehicle operator actuates the accelerator pedal ~~with the vehicle~~ acceleration.

10. (currently amended) [[A]] The method as set forth in claim 7 further comprising[[;]] detecting a vehicle gear selection using ~~the a~~ gear selection sensor ~~and sending~~ ~~the gear selection output to the powertrain control module,[[;]]~~ calculating the presence of a two footer condition when ~~the magnitude of the~~ second signal ~~vehicle brake torque request~~ ~~output~~ is greater than the ~~accelerator torque request output~~ third signal,[[;]] and actuating the electro-hydraulic brakes ~~using the electronic brake controller~~ while in the ~~predetermined~~ two footer condition.

11. (currently amended) The method as set forth in claim 10 further comprising turning off the internal combustion engine ~~using the powertrain control module~~ in the ~~predetermined~~ two footer condition.

12. (currently amended) The method as set forth in claim 10 ~~including,~~ when the vehicle operator actuates the accelerator pedal requesting vehicle acceleration; further

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comprising sensing a vehicle acceleration request ~~by the vehicle operator~~ using the accelerator pedal sensor₁[[;]] ~~de-actuating the transition of the electro-hydraulic brakes using the electronic brake controller₁[[;]]~~ turning on the internal combustion engine ~~using the powertrain control module₁[[;]]~~ and accelerating the hybrid electric vehicle using the internal combustion engine ~~providing the vehicle operator with the vehicle acceleration requested.~~